

Unsquare Dance – Full Solution Guide

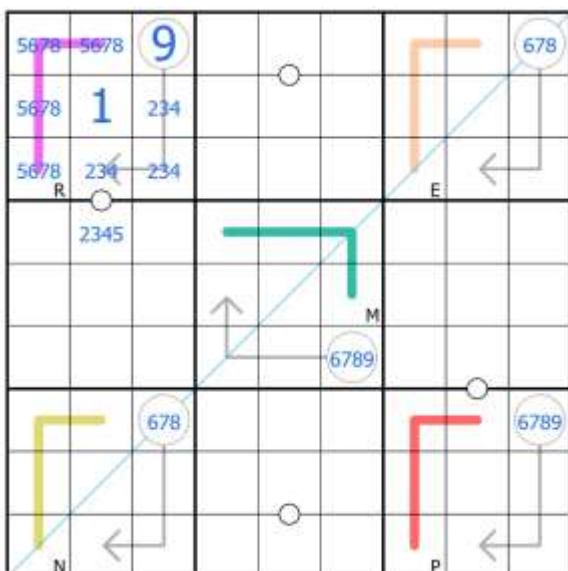
This is a full solution guide to my puzzle *Unsquare Dance*, and so spoilers are ahead.

Rules

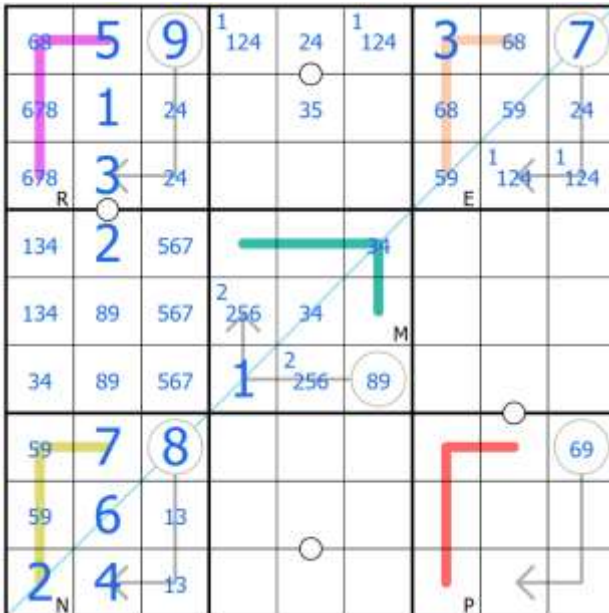
- Normal sudoku rules apply: Place the digits 1 to 9 once each in every row, column, and 3x3 box
- **Diagonal:** The positive diagonal, marked with a blue line, contains a set of digits 1 to 9
- **Arrows:** Digits on an arrow sum to the digit in the attached circle
- **Renban:** A magenta renban (R) line contains a set of consecutive digits in any order
- **Entropic:** Along a peach entropic (E) line a run of three cells contains one low digit (1, 2, 3), one medium digit (4, 5, 6), and one high digit (7, 8, 9)
- **Modular:** Along a teal modular (M) line a run of three cells contain different remainder when divided by 3, i.e. one digit from (1, 4, 7), one from (2, 5, 8), and one from (3, 6, 9)
- **Nabner:** On a gold nabner (N) line no two digits anywhere on the line may be consecutive with each other
- **Parity:** On a red parity (P) line adjacent cells contain one even and one odd digit
- **White Kropki:** Digits separated by a white dot are consecutive. Not all dots are necessarily given

Solve Path

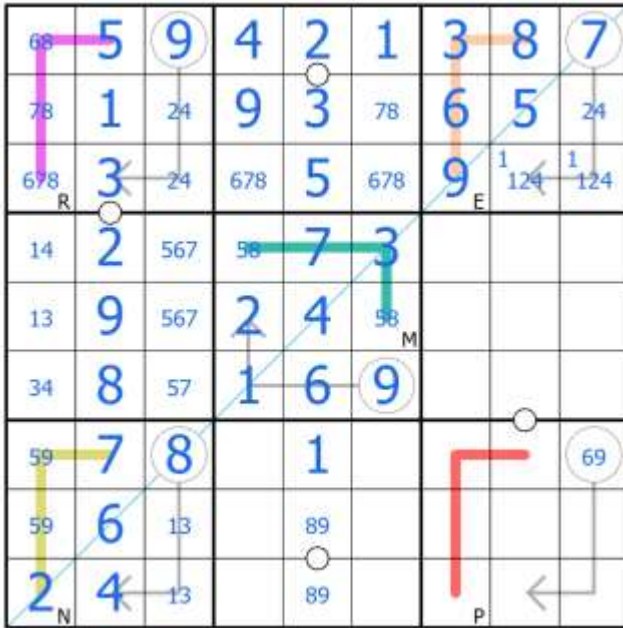
- All the three cell arrows are fully contained within a box, so they are minimum 6. A 3 cell arrow must contain at least two digits from 123
- Consider the arrow and renban combination in box 1. The renban contains a set of 4 consecutive digits. These can't all be higher than the arrow circle, as this is minimum 6 and only 789 are higher. This can't be lower than the lowest arrow digit as this arrow needs digits from 123. Hence the renban has to contain digits that are between the digits on the arrow and the digit in the circle
- By possible options, only 9 in the circle, 234 on the arrow and 5678 on the renban works
- Places 1 in R2C2



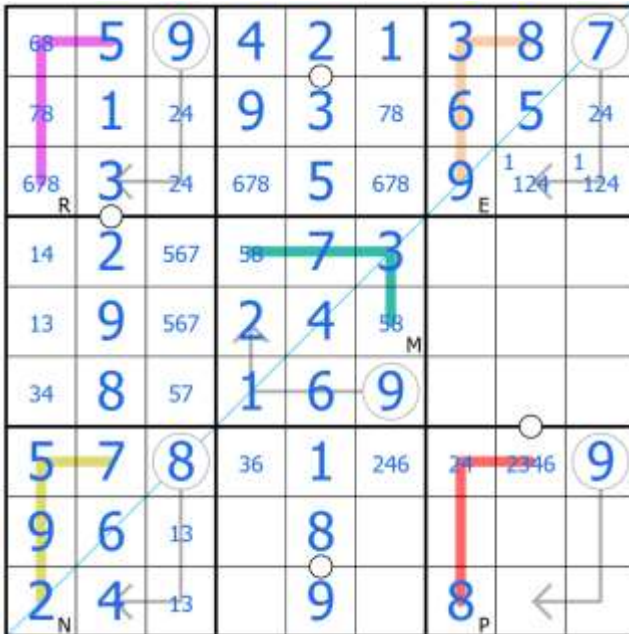
- Consider the modular line and arrow in box 5. The diagonal contains 134. This rules out 9 with 234 as there would be too many 1234s in the box, hence the arrow needs a 1 in R6C4
- 6 with 123 and 7 with 124 are similarly ruled out by putting too many 1234s in the box, so this is 8 with 125 or 9 with 126



- 8 with 125 uses up all of the 258 modularity for the box and leaves no option to go on the line, hence the arrow is 9 with 126
- 6 and 9 are used on the arrow, so only 369 modularity available is 3 in R4C6
- 1 and 4 are used already, so only 147 modularity if 7 in R4C5
- Leaves 58 pair for the modular line
- 4 in box 5 resolves the dot in box 2
- Rest of C5 can be resolved up to 89 pair on dot in box 8
- 89 pair in box 4 resolved
- Digits in box 3 resolved



- Consider parity and arrow in box 9. 6 with 123 puts too many 123s in row 9, so this arrow circle is 9
- 9 with 234 is invalid as puts too many 234s into row 9, so arrow contains a 1
- Resolves 59 pair in box 7, 89 pair in box 8, places 8 in R9C7 giving parity line ordering



- By parity line, R7C8 is a 3
- Leaves 126 for the arrow in box 9
- Remainder of box 9 resolved, along with box 3

68	5	9	4	2	1	3	8	7
78	1	24	9	3	78	6	5	4
78	3	24	78	5	6	9	2	1
14	2	567	58	7	3			
13	9	567	2	4	98			
34	8	57	1	6	9			
5	7	8	6	1	2	4	3	9
9	6	1		8		5	7	2
2	4	3		9		8	1	6

- Sudoku to finish

6	5	9	4	2	1	3	8	7
8	1	2	9	3	7	6	5	4
7	3	4	8	5	6	9	2	1
4	2	6	5	7	3	1	9	8
1	9	5	2	4	8	7	6	3
3	8	7	1	6	9	2	4	5
5	7	8	6	1	2	4	3	9
9	6	1	3	8	4	5	7	2
2	4	3	7	9	5	8	1	6